#4/a

DOCKET NO.: PHRM-0373 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Berthelsen, Toma and Isacchi

Serial No.: **09/019,980** Group Art Unit: **Not Yet Assigned**

Filed: **January 3, 2002** Examiner: **Not Yet Assigned**

For: **Tankyrase Homolog Protein (THP), Nucleic Acids, And Methods Related To The Same**

EXPRESS MAIL INFORMATION

EXPRESS MAIL LABEL NO: EL909207245US

DATE OF DEPOSIT: April 11, 2002

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

PRELIMINARY AMENDMENT

Prior to examination on the merits, Applicants respectfully request that the application be amended as follows.

In the Specification:

Following the title, please insert the following paragraph:

--CROSS-REFERENCE TO RELATED APPLICATIONS

The present application is a national phase application of International Application No. PCT/EP00/06609 filed July 3, 2000, which claims priority to U.S. Serial No. 09/350,982 filed July 9, 1999, each of which is incorporated herein by reference in its entirety.--

Please delete pages 1-17 of the application as filed containing the Sequence Listing and insert substitute pages 1-15 enclosed herewith, which contains the updated Sequence Listing.

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In the Claims:

Please cancel claims 8, 13, 24, 25 and 31, add new claims 40-57 and amend claims 1, 9, 11, 12, 14, 16-19, 29, 32, 34 and 39 to read as follows.

1. (Amended) An isolated nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

a) SEQ ID NO:3, or a fragment thereof;

b) SEQ ID NO:4, or a fragment thereof;

c) a sequence homologous to SEQ ID NO:3 or SEQ ID NO:4, or a fragment thereof;

d) a sequence that encodes a polypeptide comprising SEQ ID NO:5, or a fragment thereof; and

e) a sequence that encodes a polypeptide comprising an amino acid sequence homologous to SEQ ID NO:5, or a fragment thereof;

wherein the nucleic acid molecule encodes at least a portion of a tankyrase homolog protein.

9. (Amended) An expression vector comprising a nucleic acid molecule of claim 1 or claim 5.

11. (Amended) The vector of claim 10, which is selected from the group consisting of adenoviruses, parvoviruses, herpesviruses, poxviruses, adeno-associated viruses, Semliki Forest viruses, vaccinia viruses, and retroviruses.

12. (Amended) The vector of claim 9, wherein the nucleic acid molecule is operably connected to a promoter selected from the group consisting of simian virus 40, mouse mammary tumor virus, long terminal repeat of human immunodeficiency virus, maloney virus, cytomegalovirus immediate early promoter, Epstein Barr virus, rous sarcoma virus, human actin, human myosin, human hemoglobin, human muscle creatine kinase, and human metalothionein.

14. (Amended) A host cell transformed with the vector of claim 9.

16. (Amended) The host cell of claim 14, which is a yeast.

17. (Amended) The host cell of claim 14, which is an insect cell.

18. (Amended) The host cell of claim 14, which is a mammalian cell.

19. (Amended) An isolated polypeptide encoded by the nucleic acid molecule of claim 1.

29. (Amended) An isolated antibody which binds to an epitope on a polypeptide of claim 19.

32. (Amended) A kit comprising an antibody which binds to a polypeptide of claim 28, and a negative control antibody.

34. (Amended) The method of claim 33, wherein the determining comprises a protein binding assay.

39. (Amended) A compound identified by the method of claim 33.

40. (New claim) A vector of claim 9, wherein the nucleic acid molecule comprises SEQ ID NO:4.

41. (New claim) The host cell of claim 15, wherein the bacterial cell is *E. coli*.

42. (New claim) The host cell of claim 16, wherein the yeast is *S. cerevisiae*.

43. (New claim) The host cell of claim 17, wherein the insect cell is *S. frugiperda.*

44. (New claim The host cell of claim 18, wherein the mammalian cell is selected from the group consisting of chinese hamster ovary cells, HeLa cells, African green monkey kidney cells, human 293 cells, and murine 3T3 fibroblasts.

45. (New claim) The method of claim 34, wherein the protein binding assay is selected from the group consisting of a gel-shift assay, Western blot, radiolabeled competition assay, phage-based expression cloning, co-fractionation by chromatography, co-precipitation, cross-linking, interaction trap/two-hybrid analysis, southwestern analysis, and ELISA.

46. (New claim) A composition comprising a nucleic acid molecule of claim 1 or 5 and an acceptable carrier or diluent.

47. (New claim) A composition comprising a vector of claim 9 and an acceptable carrier or diluent.

48. (New claim) A composition comprising a polypeptide of claim 19 and an acceptable carrier or diluent.

49. (New claim) A composition comprising an antibody of claim 29 and an acceptable carrier or diluent.

50. (New claim) The kit of claim 32 further comprising instructions.

51. (New claim) A kit comprising a nucleic acid molecule of claim 1 or 5.

52. (New claim) The kit of claim 51 further comprising instructions.

53. (New claim) A kit comprising a polypeptide of claim 19.

54. (New claim) The kit of claim 53 further comprising instructions.

55. (New claim) A method of inducing an immune response in a mammal against a polypeptide of claim 19 comprising administering to said mammal an amount of said polypeptide sufficient to induce said immune response.

56. (New claim) A compound identified by the method of claim 35.

57. (New claim) A compound identified by the method of claim 37.

REMARKS

Claims 1-39 are pending in the present application. Claims 8, 13, 24, 25 and 31 have been cancelled without prejudice to their presentation in another application. New claims 40-57 have been added, support for which can be found in the originally filed claims and throughout the specification. Claims 1, 9, 11, 12, 14, 16-19, 29, 32, 34 and 39 have been amended, support for which can be found in the originally filed claims and throughout the specification. No new matter has been added. Upon entry of the present amendment, claims 1-7, 9-12, 14-23, 26-30, and 32-57 will be pending.

Applicants have replaced pages 1-17 of the Sequence Listing with new pages 1-15 which contains an updated version of the Sequence Listing. In addition, enclosed herewith is a Statement to Support Filing and Submission of DNA/Amino Acid Sequences in Accordance with 37 CFR §§ 1.821-1.825 and a computer readable form (CRF). No new matter has been added. In addition, the contents of the paper copy of the Sequence Listing and computer readable copy of the Sequence Listing, submitted in accordance with 37 CFR §§ 1.821(c) and (e), are the same.

Applicants respectfully submit that the claims are in condition for allowance. An early notice of the same is earnestly solicited. The Examiner is invited to contact Applicants' undersigned representative at (215) 564-8906 if there are any questions regarding Applicants' claimed invention.

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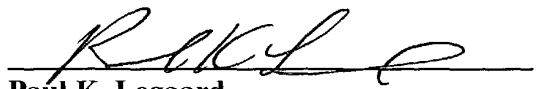
Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

Respectfully submitted,



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Date: **April 11, 2002**

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Application:

Pages 1-17 of the application as filed containing the Sequence Listing have been deleted and replaced with substitute pages 1-15 enclosed herewith.

In the Specification:

The following paragraph has been inserted after the title:

CROSS-REFERENCE TO RELATED APPLICATIONS

The present application is a national phase application of International Application No. PCT/EP00/06609 filed July 3, 2000, which claims priority to U.S. Serial No. 09/350,982 filed July 9, 1999, each of which is incorporated herein by reference in its entirety.

In the Claims:

Claims 8, 13, 24, 25 and 31 have been canceled.

New claims 40-57 have been added.

Claims 1, 9, 11, 12, 14, 16-19, 29, 32, 34 and 39 have been amended as follows:

1. (Amended) An isolated nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

a) SEQ ID NO:3, or a fragment thereof;

b) SEQ ID NO:4, or a fragment thereof;

c) a sequence homologous to SEQ ID NO:3 or SEQ ID NO:4, or a fragment thereof;

d) a sequence that encodes a polypeptide comprising SEQ ID NO:5, or a fragment thereof; and

e) a sequence that encodes a polypeptide comprising an amino acid sequence homologous to SEQ ID NO:5, or a fragment thereof;

wherein the nucleic acid molecule encodes at least a portion of a tankyrase homolog protein.

9. (Amended) An expression vector comprising a nucleic acid molecule of [any preceding] claim 1 or claim 5.

11. (Amended) The vector of claim 10, which is selected from the group consisting of adenoviruses, parvoviruses, herpesviruses, poxviruses, adeno-associated viruses, Semliki Forest viruses, vaccinia viruses, and retroviruses.

12. (Amended) The vector of [any one of claims 9 to 11] claim 9, wherein the nucleic acid molecule is operably connected to a promoter selected from the group consisting of simian virus 40, mouse mammary tumor virus, long terminal repeat of human immunodeficiency virus, maloney virus, cytomegalovirus immediate early promoter, Epstein Barr virus, rous sarcoma virus, human actin, human myosin, human hemoglobin, human muscle creatine kinase, and human metalothionein.

14. (Amended) A host cell transformed with the vector of [any of claims 9 to 12] claim 9.

16. (Amended) The host cell of claim 14, which is a yeast [, e.g. *S. cerevisiae*].

17. (Amended) The host cell of claim 14, which is an insect cell [, e.g. *S. frugiperda*].

18. (Amended) The host cell of claim 14, which is a mammalian cell [, e.g. selected from chinese hamster ovary cells, HeLa cells, African green monkey kidney cells, human 293 cells and murine 3T3 fibroblasts].

19. (Amended) An isolated polypeptide encoded by the nucleic acid molecule of [any of claims 1 to 8] claim 1.

29. (Amended) An isolated antibody which binds to an epitope on a polypeptide of [any of claims 19 to 23] claim 19.

32. (Amended) A kit comprising an antibody which binds to a polypeptide of [any of claims 19 to 23] claim 28, and a negative control antibody.

34. (Amended) The method of claim 33, wherein the determining comprises a protein binding assay [, e.g. selected from a gel-shift assay, Western blot, radiolabeled competition assay, phage-based expression cloning, co-fractionation by chromatography, co-precipitation, cross-linking, interaction trap/two-hybrid analysis, southwestern analysis and ELISA].

39. (Amended) A compound identified by the method of [any of claims 34 to 38] claim 33.